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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/527,516	05/13/2005	Michel Zamfiroiu	BDM-05-1041	9933

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EXAMINER

SANDERS, AARON J

ART UNIT	PAPER NUMBER
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2168

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/19/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/527,516

Applicant(s)

ZAMFIROIU, MICHEL

Examiner

Aaron Sanders

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 April 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 03/10/2005.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Priority

The instant application is the national stage entry of PCT/FR03/02675, filed 9 September 2003, which claims priority of French application 02/11250, filed 11 September 2002.

Response to Amendment

The preliminary amendment, filed 25 April 2005, has been entered into the record. Claims 13-24 are pending.

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the process of claims 13-24 must be shown or the features canceled from the claims. Further, Fig. 1 is not discussed in the specification. See 37 C.F.R. 1.74. No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the

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renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

The abstract of the disclosure is objected to because it contains more than 150 words. See 37 C.F.R. 1.72(b). Appropriate correction is required.

Claim Rejections - 35 USC § 112 Second Paragraph

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 13-24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 13-24 are rejected as failing to define the invention in the manner required by 35 U.S.C. 112, second paragraph. The claims are run-on sentences and replete with indefinite and functional or operational language. The steps performed by the process must be clearly and positively specified. The steps must be organized and correlated in such a manner as to present a complete operative process. The claims must be in one sentence form only. Note the format of the claims in the patents cited.

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Claims 14, 15, and 21 recite the limitations “the internal database”, “the elementary level of modification”, “the level of the transaction”, and “the dependence links” respectively. There is insufficient antecedent basis for these limitations in the claims.

The terms “dynamic” and “casual” in claims 14 and 24 are relative terms that render the claims indefinite. The terms “dynamic” and “casual” are not defined by the claims, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

At least claims 15, 17, 18, 20, and 23 recite a “base” or “main base”. It is assumed that these terms refer to the “main database” in claim 13, but this is not clear.

The last limitation of claim 15 and claims 20 and 23 are incomprehensible.

The Examiner has applied the prior art to the claims as well as possible given these rejections.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 13-24 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 13-24 are directed to a process for organizing a digital database in a traceable form. The claimed subject matter lacks a practical application of a judicial exception (law of nature, abstract idea, naturally occurring article/phenomena) since it fails to produce a useful, concrete, and tangible result.

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Specifically, the claimed subject matter does not produce a useful result because the claimed subject matter fails to sufficiently reflect at least one practical utility set forth in the descriptive portion of the specification. More specifically, while the described practical utility (utilities) is (are) directed to organizing a digital database in a traceable form, the claimed subject matter relates ONLY to modifying and reading a main database.

Further, the claimed subject matter does not produce a tangible result because the claimed subject matter fails to produce a result that is limited to having real world value rather than a result that may be interpreted to be abstract in nature as, for example, a thought, a computation, or manipulation of data. More specifically, the claimed subject matter provides for reading the main database. This produced result remains in the abstract and, thus, fails to achieve the required status of having real world value.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 13-24 are rejected under 35 U.S.C. 102(e) as being anticipated by Klein et al.,
U.S. Pat. 6,631,374.

As per claims 13-24, Klein et al. teach:

1-12. (Canceled)

13. A process for organizing a digital database in a traceable form comprising:

modifying a main digital database by addition or deletion or modification of a recording of the main database (See e.g. col. 2, lines 38-50, “a transaction makes a change to a relative database block (or simply, ‘data block’)”), wherein modifying the main database comprises creating at least one digital recording comprising at least: unique digital identifiers of concerned recordings and attributes of the main database (See e.g. col. 2, lines 38-50, “the database engine creates an interested transaction entry which is stored in the relative database block”), a unique digital identifier of a state of the main database corresponding to the modification of the main database (See e.g. col. 2, lines 38-50, “A system change number is assigned when the transaction is committed”), elementary values of attributes assigned via elementary operations without proceeding to store non-modified attributes or recordings (See e.g. col. 2, lines 38-50, “a transaction table entry storing the changed data values and transaction undo information” where the referenced “changed data values” are the claimed “elementary values”), and addition of the concerned recording in an internal historical database composed of at least one internal historical table (See e.g. col. 2, lines 38-50, “a transaction table entry storing the changed data values and transaction undo information” where the referenced “table entry storing... transaction undo information” is part of the claimed “internal historical table”), and

reading the main database (See e.g. col. 3, lines 18-41, “performing a logical select operation on temporal row data stored in a consistent read-implemented database”), wherein reading relates to any final or previous state of the main database and comprises receiving or intercepting an original request associated with the unique identifier of a target state in proceeding to a transformation of an original request to construct a modified request for

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addressing the historical database comprising criteria of the original request and the identifier of the target state (See e.g. col. 3, lines 18-41, "A record of database operations is maintained, including transactions effecting row data changes that have been committed into a database. Rollback segments for uncommitted transactions are stored. Each rollback segment stores a transaction identifier and information pertaining to effecting or restoring the database changes, including addresses for a undo entries containing row data values reflecting the database changes"), and reconstruction of the recording or recordings corresponding to the criteria of the original request and to the target state, wherein the reconstruction comprises finding elementary values contained in the recordings of the historical database and corresponding to the criteria of the original request to reduce requirements of storage capacity and processing times (See e.g. col. 3, lines 18-41, "The ordered row data values stored in the undo entries are retrieved by referencing the transaction table entries at each address included in the interested transaction entry with the transaction identifier for the at least one committed transaction").

14. The process according to claim 13, wherein the recordings of the historical database also contain references to other recordings of the internal database to specify connections of dynamic dependence of source-destination type constituting a casual stream of interferences between data versions (See e.g. col. 3, lines 18-41, "A logical select operation is executed on the database for row data values as of a query time occurring prior to the commit time of at least one committed transaction. The ordered row data values stored in the undo entries are retrieved by referencing the transaction table entries at each address included in the interested transaction entry with the transaction identifier for the at least one committed transaction").

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15. The process according to claim 13, wherein modifying the main database is a logic operation and addition of the historical database comprises:

a recording identifying the state of the base corresponding to the logic operation (See e.g. col. 3, lines 18-41, "A system change number is assigned to the database version upon each committed transaction"),

as many recordings as parameters of the logic operation (See e.g. col. 2, lines 38-50, "Each interested transaction entry references a transaction table entry storing the changed data values"),

a recording for the possible result of the logic operation (See e.g. col. 5, lines 50-64, "Identical query results are guaranteed for any given system version number"), and

specifying by cognateness regrouping of operations from the elementary level of modification to the level of the transaction, passing the number of semantic levels necessary for the applications.

16. The process according to claim 13, wherein the main database comprises one or several tables organizing development links between the identifiers of successive and alternative states of the main database and intended to organize recordings of the internal database (See e.g. col. 3, lines 18-41, "The ordered row data values stored in the undo entries are retrieved by referencing the transaction table entries at each address included in the interested transaction entry with the transaction identifier for the at least one committed transaction").

17. The process according to claim 16, wherein the table or tables of the development links between the states of the main base contain(s) recordings specifying rules of correspondence between the recordings of the internal historical database and the states of the

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main database (See e.g. col. 3, lines 18-41, “The ordered row data values stored in the undo entries are retrieved by referencing the transaction table entries at each address included in the interested transaction entry with the transaction identifier for the at least one committed transaction”).

18. The process according to claim 16 or 17, wherein reading comprises determining the state of the main database by referring to the identifiers and to the tables of development links between the states of the main base (See e.g. col. 3, lines 18-41, “The database is transitioned into successive consistent database versions responsive to each committed transaction”).

19. An architecture for database management that employs the process according to claim 13, wherein an application querying the main database can specify the state of the desired main database (See e.g. Fig. 1 and col. 3, lines 18-41, “A logical select operation is executed on the database for row data values as of a query time occurring prior to the commit time of at least one committed transaction”).

20. The architecture according to claim 19, wherein the application brings about modifications in the entire state of the main base and gives rise, in the instance of an attempt to modify a previous state, to creation of new alternatives of digital development of the main database, whose data is generated by the same internal historical database (See e.g. col. 3, lines 18-41, “Rollback segments for uncommitted transactions are stored. Each rollback segment stores a transaction identifier and information pertaining to effecting or restoring the database changes, including addresses for a undo entries containing row data values reflecting the database changes”).

21. The process according to claim 15, wherein the dependence links serve as recovery criteria for said operations already carried out (See e.g. col. 3, lines 18-41, "Rollback segments for uncommitted transactions are stored").

22. The process according to claim 15, wherein updatings carried out on various branches can be integrated or merged into the framework of a new state inheriting these branches (See e.g. col. 3, lines 18-41, "The database is transitioned into successive consistent database versions responsive to each committed transaction at a journaled commit time").

23. The process according to claim 15, wherein cases of the development of the structure of the data of the main database are treated as particular cases of the development of the data of the base, with the proviso that little of the structure/scheme of the main base is described in a manner cited for the data, as a dictionary.

24. The process according to claim 15, wherein the historical database is explored and queried by applications via a native mode of a DBMS to obtain information and to navigate along versions and streams of dynamic dependence in accordance with the querying language in force required by the DBMS. (See e.g. Fig. 2 and col. 5, lines 2-5, "the database engine 21 and database 23 form a relational database management system").

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Flynn et al., U.S. Pat. 5,347,653; Neubauer et al., U.S. Pat. 6,148,308; and Gardner, U.S. Pat. 6,385,616.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aaron Sanders whose telephone number is 571-270-1016. The examiner can normally be reached on M-Th 8:00a-5:00p.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tim Vo can be reached on 571-272-3642. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



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